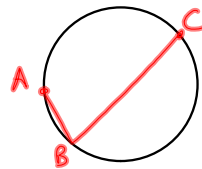


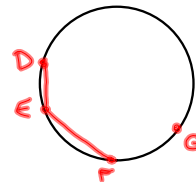
# 10-4 Inscribed Angles



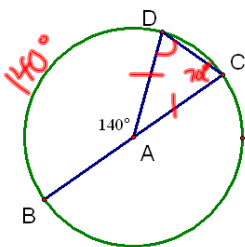
Inscribed angle--angle whose vertex is on the circle and whose sides contain chords of the circle



$\angle ABC$  is inscribed  
intercepts  $\widehat{AC}$



$\angle DEF$   
intercepts  $\widehat{DG}$



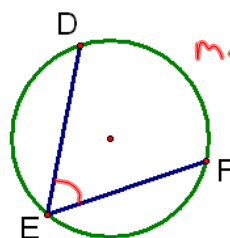
Name the inscribed angle in the picture.  $\angle DCB$

What arc does it intercept?  $\widehat{DB}$

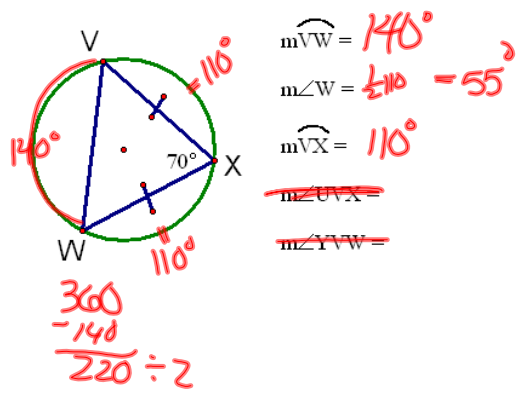
What is the measure of the intercepted arc?  $140^\circ$

What is the measure of the inscribed angle?  $70^\circ$

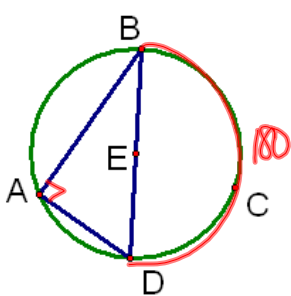
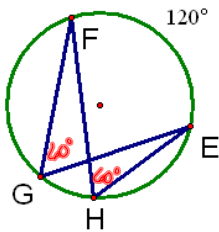
Theorem 10-5--The measure of an inscribed angle is  $= \frac{1}{2}$  the measure of the intercepted arc.



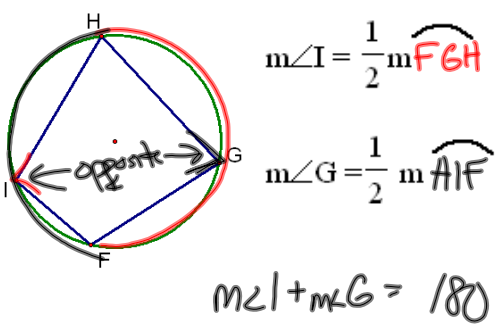
$$m\angle E = \frac{1}{2} m\widehat{DF}$$



Theorem 10.6--If 2 inscribed angle intercept the same arc, then the angles are congruent.

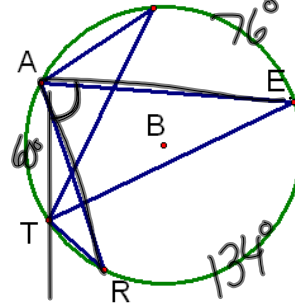


Theorem 10-7--An angle inscribed in a semicircle is a right angle.



Theorem 10-8--If a quadrilateral is inscribed in a circle, then its opposite angles are supplementary

Example 1: L

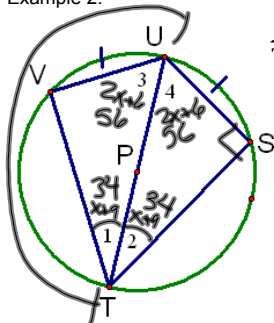


$$\begin{aligned} m\widehat{AT} &= 60^\circ \\ m\widehat{LE} &= 76^\circ \\ m\widehat{ER} &= 134^\circ \end{aligned}$$

Find

$$\begin{aligned} m\angle L &= \frac{1}{2}60 = 30^\circ \\ m\angle E &= \frac{1}{2}76 = 38^\circ \\ m\angle R &= \frac{1}{2}134 = 67^\circ \\ m\angle LAE &= \frac{1}{2}76 = 38^\circ \\ m\angle EAR &= \frac{1}{2}134 = 67^\circ \end{aligned}$$

Example 2:



$\overline{TU}$  is the diameter

$$m\angle 2 = x + 9$$

$$m\angle 4 = 2x + 6$$

Find

$$m\angle 1 =$$

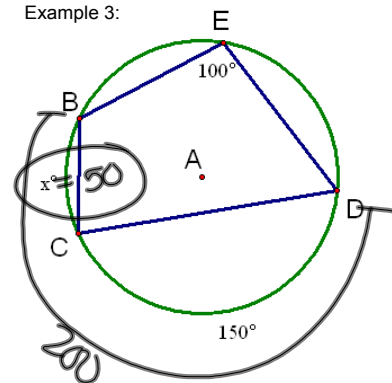
$$m\angle 2 =$$

$$m\angle 3 =$$

$$m\angle 4 =$$

$$\begin{aligned} x + 9 + 2x + 6 &= 90 \\ x &= 25 \end{aligned}$$

Example 3:



Find x.

HW  
p549  
8,10, 13-17

Draw Pictures!